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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 09/982,048
Filed: 10/18/01
Applicant: Ganz
For: Automated Verification and
Inspection Device for
Sequentially Inspecting
Microscopic Crystals

Examiner: Miller, M
Group Art: 2623

<p align="center">CERTIFICATE OF MAILING</p> <p>I certify that this document is being deposited on <u>2/13/03</u> with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the:</p> <p align="center">Assistant Commissioner for Patents Washington, D.C. 20231</p> <p align="center"><i>[Signature]</i> _____ Signature of Person Mailing Correspondence</p> <p align="center">John R. Ross, III Typed or Printed Name of Person Mailing Correspondence</p>

Declaration under Rule 131

Sir:

Brian L. Ganz, an applicant in the above-identified patent application declares as follows:

1. I make this declaration to document evidence of conception of the above-identified patent application entitled "Automated Verification and Inspection Device for Sequentially Inspecting Microscopic Crystals" (hereinafter "the invention") followed by due diligence leading to a subsequent reduction to practice.
2. I am a co-inventor of the invention and President/CEO of RoboDesign International, Inc. (hereinafter "RoboDesign")
3. RoboDesign is the owner of the invention.
4. Prior to Monday, October 23, 2000, after meeting with Boris Laubert of Structural Genomix, Inc with offices in San Diego, CA., I conceived of the invention as described and claimed. As part of my conception, I conceived of a robotic device that would automatically look into individual wells of a micro-well plate and automatically classify microcrystals after receiving their images.
5. Enclosure 1 is an email from Boris Laubert to myself and shows evidence of my conception. My statement "we could look into the wells and look for crystals (first stage) with our current system" refers to my concept that by appropriately modifying our existing microarrayer, we could have a device that would automatically look into individual wells of a micro-well plate and automatically classify microcrystals.


Enclosure A



6. On October 26, 2000, RoboDesign employees and myself began to work with due diligence to reduce our invention to practice. RoboDesign would be designing and then building our invention for sale to Structural Genomix, Inc.
7. Enclosure 2 provides evidence of the start date of RoboDesign's diligent work. Enclosure 2 is a page from the laboratory notebook of coinventor John Andrew Moulds dated 10/26/02. Statements are made regarding automatic classification features such as "clear/not clear" and automatic functions "Step 2: Sort clear images from not clear" and "Step 3: Sort not clear images".
8. Enclosure 3 is a page from the laboratory notebook of coinventor John Andrew Moulds documenting a meeting that was dated 10/30/02. Enclosure 3 shows the classification categories that can be used for automatic classification: clear, light medium/heavy, ugly, phase separation, unknown, spherulites, grainy precipitation, microcrystals, and crystals.
9. In actually reducing the invention to practice, RoboDesign built two machines for Structural Genomix. The first machine shipped to Structural Genomix was called "RoboVision Machine #2" and was shipped on 4/10/01 (Enclosure 4). The second machine shipped to Structural Genomix was called "RoboVision Machine #1" and was shipped on 8/14/01 (Enclosure 5).
10. Building RoboVision Machine #2 and RoboVision Machine #1 was a major priority for RoboDesign. Work progressed continuously from late October 2000 through the shipment dates of both machines. To illustrate the continuous diligent work, please refer to Enclosure 6 which is comprised of selected pages from the laboratory notebook of coinventor Mandel W. Mickley and which documents various stages of work progress. Entries relating to the work exist for the following dates: 10/26/00, 11/1/00, 11/2/00, 11/7/00, 11/12/00, 11/13/00, 11/22/00, 11/27/00, 12/28/00, 1/2/01, 1/4/01, 1/5/01, 1/11/01, 1/23/01, 1/24/01, 1/24/01, 1/29/01, 2/1/01, 2/12/01, 2/14/01, 3/16/01, 3/26/01, 3/29/01, 4/2/01, 4/3/01, 4/4/01, 4/5/01, 4/9/01, 4/10/01, 4/10/01, 4/11/01, 4/12/01, 4/16/01, 4/18/01, 4/19/01, 4/23/01, 4/25/01, 4/26/01, 4/30/01, 5/1/01, 5/2/01, 5/3/01, 5/10/01, 5/29/01, 5/30/01, 6/1/01, 6/1/01, 6/8/01, 6/11/01, 6/13/01, 6/28/01, 6/29/01, 7/2/01, 7/5/01, 7/13/01, 7/16/01, 7/18/01, 7/19/01, 7/30/01, 7/31/01, 8/3/01, 8/6/01, 8/9/01, 8/13/01, 8/20/01, 8/21/01, 8/22/01, 8/24/01, 8/27/01, 8/28/01, 8/28/01, 8/29/01, 9/4/01, 9/24/01, 9/28/01, 10/18/01.
11. On 3/26/01, Mandel W. Mickley wrote a subroutine called "findcrystal" (Enclosure 7) to automatically return the "x,y position(s) of crystal(s) found within an image". This code could be used to automatically classify an image as to whether or not a crystal was present. For example, if a crystal was present the code would return the position of the crystal as well as its image. If no crystal was present the code would return a message stating there was no crystal. Therefore, by utilizing the subroutine "findcrystal" the computer could automatically classify a plurality of microcrystals after receiving their images.

12. From 3/26/01 to 4/9/01, the subroutine "findcrystal" was tested and verified.
13. On 4/9/01, the subroutine "findcrystal" was released.
14. On 4/10/01, a first version of the present invention was shipped to RoboDesign's customer Structural Genomix (Enclosure 4). This first version (referred to in Enclosure 4 as "RoboVision Machine #2") contained the subroutine "findcrystal" and was capable of automatic classification of microscopic crystals.
15. After the shipment of RoboVision Machine #2, diligent work continued on "RoboVision Machine #1" to make improvements and correct any bugs (see paragraph 10 and Enclosure 6).
16. On 8/14/01, a second version of the present invention was shipped to RoboDesign's customer Structural Genomix (Enclosure 5). This second version (referred to in Enclosure 5 as "RoboVision Machine #1") contained improvements and corrected bugs that may have been present in the earlier shipped machine. Also improved and debugged was the subroutine "findcrystal" for automatic classification of microscopic crystals.
17. On 5/14/01, coinventor John Adams continued the work on the automatic classification program. His goal was to improve "findcrystal" so that the classification program would automatically classify microcrystals into a larger variety of categories similar to those mentioned in paragraph 8 and Enclosure 3.
18. The diligent work of John Adams and other RoboDesign employees continued from 5/14/01 - 10/18/01 (the filing date of the above-identified patent application). Enclosure 6 shows evidence of Mandel W. Mickley's work. John Adams has submitted his own declaration attesting to his diligent work.
19. The above-identified patent application was filed 10/18/01 and included a disclosure and claims relating to automatic classification of microscopic crystals. Specifically, the disclosure included a discussion of automatic classification of microscopic crystals into multiple categories.

20. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.


Brian L. Ganz

2/13/03

Date